

REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested.

By this Amendment, the specification is amended, and claims 1-3, 6-8, and 10 are amended. Furthermore, claims 4-5 and 9 are canceled without prejudice or disclaimer and new claims 11-13 are added. Accordingly, claims 1-3, 6-8 and 10-13 are pending in this application. No new matter is presented in this Amendment.

The specification is amended to more clearly disclose the background art, correct voltage labels, and to include further description of figures provided. For example, at page 1, line 28, the label “ V_{dc} ” is replaced with “ V_L ” and the paragraph, beginning at page 2, line 35 amended to include a further description of Figs. 4-5.

Claims 1-7, 9, and 10 stand rejected under 35 U.S.C. §103(a) over Odahhara (US 2002/0161537) in view of Alwardi et al. (US 5,965,997). In addition claim 8 stands rejected under 35 U.S.C. §103(a) over Odahhara in view of Alwardi as applied to claim 7, and in further view of Frey (US 5, 708,348). In response, claims 4-5 and 9 are canceled, claims 1-3, 6-7, and 10 are amended, and as presented below, are believed to be patentable over the applied art not only for the failure of the applied art to disclose, teach or suggest all of Applicant's recited claim features, but in addition because of the failure to present any apparent reason to combine references or modify prior art to create the Applicant's allegedly obvious claim elements.

As amended, independent claim 1, recites, *inter alia*, “a direct current coupling circuit connected to an output of the differential amplifier;” and “a band pass filter configured to allow only signals having a frequency band near to internal impedance voltage signals to be passed.” The Office Action acknowledges that the disclosure of Odahhara fails to disclose the above features and relies upon Alwardi to allegedly remedy the deficiencies. Specifically, the Office Action alleges that Alwardi, in column 16, lines 21-43 discloses the use of a low pass filter and that it would be obvious to modify the disclosed low pass filter to be the recited band pass filter and a direct current filter. Applicant respectfully disagrees.

At the outset, Applicant respectfully submits that at the cited text, Alwardi only appears to disclose wherein integration control circuit 122 and counter 124 (part of voltage/frequency converter 40), perform a low pass filter operation on the charge count stream and the discharge count stream, these two streams being utilized to increment and decrement software counters representing the battery capacity state. Nowhere does Alwardi disclose, teach, or suggest generating or using signals to allow only signals having a frequency band near to internal impedance voltage signals to be passed, let alone a band pass filter to perform this function. In addition, Applicant respectfully submits that a digitally implemented band pass filter is significantly more sophisticated than a low pass filter, and therefore it is non-obvious how the state diagram of Fig. 5, implemented using control circuit 122 and counter 124 can be modified to perform the band pass filter function, as recited in claim 1.

Furthermore, notwithstanding the assertions made in the Office Action that modifying the low pass filter of Alwardi to create the Applicant's band pass filter would be obvious to protect the system from certain voltage and current levels, Applicant respectfully submit that based upon the stated purpose of Alwardi's low pass filter, no apparent reason exists to combine the Odahhara reference with Alwardi, or modify prior art, to create Applicant's band pass filter.

Regarding the recited direct current coupling circuit, the purpose of this element is to filter a noise, e.g., a ripple voltage, when the noise is mixed in a storage battery being charged, when measuring a cell voltage of the storage battery, and provide a pure DC voltage input to an A/D converter to allow an external voltage of a storage battery be operated and computed. Applicant respectfully submits that not only does the alleged combination of Odahhara and Alwardi fail to disclose, teach, or suggest the recited direct current coupling circuit connected to an output of the differential amplifier, Applicant further submits that nowhere is there any apparent reason to combine references, or modify prior art, to create Applicant's coupling circuit. Applicant therefore submits that claim 1 is patentable over the alleged combination of Odahhara and Alwardi.

Applicant further submits that claim 7 similarly recites at least the direct current coupling circuit and band pass filter of claim 1 and is likewise patentable not only due to the failure of

Odahhara in view of Alwardi to disclose, teach or motivate all recited features of the claim, but is also patentable based upon the improper combination of the applied references.

Furthermore, claim 2, 3, 6-8 and 10 depend variously from independent claims 1 and 7 and are likewise patentable over the asserted combination of references for at least their dependence on an allowable base claim, as well as for the additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

Similarly, new claims 12-13 depend variously from claims 1 and 7, and are patentable at least based upon their dependence on an allowable base claim, as well as for the additional features they recite.

New independent claim 11 is based upon Fig. 5 and is likewise patentable for the features recited.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited. Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,
LOWE HAUPTMAN HAM & BERNER, LLP

/Yoon S Ham/
Yoon S. Ham
Registration No. 45,307

Customer Number: 22429
1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: November 12, 2008
YSH/ERM